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Animal Welfare Information Center Newsletter

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Legislation Update

- S. 3003 To amend the Marine Mammal Protection Act of 1972 to authorize the Secretary of State to enter into international agreements to establish a global moratorium to prohibit harvesting of tuna through the use of purse seine nets deployed on or to encircle dolphins or other marine mammals, and for other purposes.

Introduced July 22, 1992, by John Kerry (D-MA) and referred to the Committee on Commerce, Science, and Transportation. This act may be cited as the "International Dolphin Conservation Act of 1992." Congress finds that the harvesting of yellow fin

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AIR TRANSPORT AND ANIMAL WELFARE

by
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International Air Transport Association

The International Air Transport Association — IATA — is the trade organization of scheduled commercial airlines worldwide. Founded in 1945, IATA has more than 200 members today carrying over 98 percent of the world's international air traffic. IATA helps the airline industry to develop policies and assists members by exerting influence on global aviation standards and recommended practices that are promulgated by international governmental agencies. It provides a forum for discussion and consultation of the industry's problems with other industry organizations, authorities, and institutions.

Transporting live animals by air is by far the most efficient and humane manner of moving them. In the mid-sixties, the airline industry began to investigate the means of ensuring animal welfare during air transport.

Following an extensive study and consultation with animal experts, shippers, trade organizations, governmental agencies, and member airlines, IATA established a permanent Live Animals Board (LAB) to develop criteria applicable to the acceptance, handling, and loading of live animals. These criteria were published as the IATA Live Animals Regulations (LAR) in 1969. The IATA LAR contain the general handling procedures for shipping animals by air, a list of the endangered species protected by the United Nations Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the container requirements for air transportation and the exceptions filed by governments and airlines. Although the regulations were originally implemented on a

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ANIMAL TRANSPORTATION

by Sylvia Taylor, D.V.M.

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The transport of laboratory and exhibit animals presents challenges not normally encountered when transporting typical pets. These animals have specialized needs, and their successful transport depends on careful planning and coordination between the shipper, transporter, and receiver. Although only U.S. Department of Agriculture (USDA) regulations and standards that are enforced by the Animal and Plant Health Inspection Service (APHIS), Regulatory Enforcement and Animal Care (1) will be discussed here, consignors and carriers may also have to meet requirements of other agencies. The regulations of other divisions of the USDA, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service (2), the Centers for Disease Control (3), and/or guidelines of the International Air Transport Association (IATA) (4) may be more stringent than those under the Animal Welfare Act (AWA). Additional State and local laws may also apply.

General Considerations

Proper planning for animal transport anticipates the conditions likely to be encountered by the animal throughout the trip. This includes stopovers, transfers, and the possibility of unexpected delays and misrouting. It also means trying to reduce the stress of transport and exposure to new environments long before the shipment even starts by acclimatizing animals prior to shipment and making arrangements for post-arrival adjustment.

The shipper should consider all the intrinsic factors that will affect the shipment's success before deciding upon how to contain each animal, and when and by what method to transport the animal. Such factors include the species, breed, sex, age, behavioral history, and current behavioral state (6). The more robust an animal's physical and mental condition is before shipment, the better it will be able to

cope with potentially stressful environmental conditions.

Behavioral and Physical Considerations

Many laboratory and zoo animals have had limited exposure to humans and have lived in carefully controlled environments. They may react unpredictably to strangers, machine noises, new odors, fluctuating temperatures, and air pressure. Whenever possible, they should be physically and psychologically prepared for such conditions before shipment (6, 7). Excited animals have increased respiratory rates and consume more oxygen (8) while fear and nervousness can promote heat stroke (9).

For exotic species, behavioral considerations are critical. The general principle is to reduce fear by enhancing comfort and familiarity. For example, in exotic hoofstock and some birds, the stress and exertion experienced during a difficult capture can cause "capture myopathy" (or "transport myopathy"), a degenerative muscle condition which manifests itself days or weeks after the capture and is often fatal (10). One way to make the initial capture and crating of such animals more successful is to allow the animal to adjust to its container first. The container can be placed inside the animal's pen several weeks before the trip. Putting food inside the container each day will help the animal to become familiar with the crate, which will reduce the animals fear during later transport (10). Darkening the transport container, without compromising essential ventilation, will induce calm in most diurnal animals. Floors should be comfortable and appropriate to the anatomy and behavior of the species. Non-slip flooring is recommended for hoofstock. Large ventilation openings and openings for food and water should be screened or otherwise protected so that animals can't protrude or trap body parts in

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“Meeting the Information Requirements of the Animal Welfare Act.”

A Workshop

The Animal Welfare Information Center (AWIC) of the National Agricultural Library (NAL) has developed a 1-1/2 day workshop designed for individuals who are responsible for providing information to meet the mandate of the 1985 amendments to the Animal Welfare Act (AWA).

The act requires that investigators provide Institutional Animal Care and Use Committees (IACUC) with documentation demonstrating that thorough literature searches were conducted regarding alternatives. An alternative is any procedure which results in the reduction in the numbers of animals used, refinement of techniques, or replacement of animals. AWIC staff developed the workshop to help the research community meet this mandate.

The objectives of the workshop are to provide:

1. an overview of the Animal Welfare Act and its regulations.
2. a definition of “alternatives” and the information requirements of the AWA.
3. a comprehensive introduction to NAL and AWIC.
4. instruction on the use of existing information databases/networks.
5. on-line searching experience.

This workshop is targeted for persons (i.e., principal investigators, members of IACUC's, information providers, administrators of animal use programs and veterinarians) who are responsible for providing information either on alternatives or other animal welfare topics. All participants will receive a resource manual.

The workshop will be held on March 4-5, 1993, and again on June 3-4, 1993. Each workshop will be limited to 12 persons. Additional workshops are being planned for the fall and winter of 1993.

For more information, contact AWIC at (301) 504-6212 or write to:

*Animal Welfare Information Center
National Agricultural Library, Room 205
10301 Baltimore Boulevard
Beltsville, MD 20705-2351*

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voluntary basis, because of increased interest by governments and international organizations concerned with animal welfare, the regulations became mandatory for IATA members in 1974.

Since its development, the IATA LAR have been adopted by a number of countries as their national regulations for transporting live animals. The IATA standards were also adopted by international agencies such as the United Nations CITES and the Office International des Epizooties, the association representing worldwide government veterinary services. On September 15, 1992, the U.S. Fish and Wildlife Service (USFWS) began enforcing the IATA container requirements for wild mammals and birds imported into the United States. Similarly, on January 1, 1993, the member states of the European Community (EC) will enforce the IATA container requirements for shipment of live animals entering the EC. These developments have proven that the IATA regulations are a true global standard for transporting live animals.

Air carriers are currently implementing more stringent acceptance procedures because of increasing regulatory restrictions. The carrier will perform a visual check upon acceptance to ensure that (a) the structure, material, size and fixtures of the container conform with either the IATA standards or the more stringent standards adhered to by the individual carrier and (b) that the contents match the description of the shipping document and the veterinary certificate. The carrier will reject the shipment if there is any doubt. Animal shippers should therefore consult the carrier before preparing a shipment to ensure that all specific requirements are met.

Because of new materials and innovative technologies, the industry has been able to improve the design and construction of live animal containers. Plastic, fiberglass, and synthetics are now widely used for constructing small-to-medium-size containers. Wood remains the popular material for large and special-purpose

containers, although metal containers are still being used for certain species. Regardless of which type of material is used, it must be non-toxic and nonchemically treated. Plastic containers should be molded while large wooden containers should have bolted, not nailed, joints. If the gross weight of the animal and the container exceeds 132 pounds (65 kilograms (kg)), forklift spacer bars at least 2 inches (5 centimeters) thick and metal reinforcement bracing must be provided (see figure 1).

Ventilation is one of the most important transport conditions contributing to animal safety and comfort. IATA standards require

Live Animals Regulations

CONTAINER REQUIREMENT 28

△ Applicable to:

Aardwolf	Jackal
Badger	Jaguarundi
Bobcat	Lynx
Bush dog	Maned wolf
Caracal	Ocelot
Coyote	Otter
Dhole	Panda (lesser or red)
Dog, hunting wild	Wildcat species (small)
Fox	Wolf
Hyaena	Wolverine

See Exceptions GBG-05, HKG-01, SAG-02, USG-08 and other USG Exceptions in Chapter 5 and Exceptions AF-01, BA-04, IB-01 and SV-01 in Chapter 6.

1. DESIGN AND CONSTRUCTION
(see Exception QF-01 in Chapter 6)

Materials
Metal, wire mesh and wood.

Principles of Design
The following principles of design shall be met in addition to the General Container Requirements outlined at the beginning of this chapter.

Containers shall be constructed with a strong framework, with joints made so that the animal cannot claw or bite through the joints, or escape due to continual biting and scratching at the corners of the container.

A dropping tray with absorbent material must be provided.

△ One end of the container shall be covered with welded wire mesh over which a sliding panel with two 10 cm (4 in) holes in the upper part and multiple 2.5 cm (1 in) ventilation holes below. The panel must be easily raised in order to permit feeding and watering.

Access to the container should be by means of a sliding door adequately secured to prevent accidental opening. The door can be the main ventilation opening.

The main ventilation opening shall be supplemented by ventilation slots or holes regularly spread over the opposite end of the container from top to bottom, as well as over the top

third of the sides, covering not less than 20% of the surface of all four walls. Holes of 2.5 cm (1 in) diameter, at horizontal and vertical intervals of 10 cm (4 in) centre to centre, regularly spread over this surface, will meet this requirement. These are minimum requirements and containers providing additional ventilation openings on top or sides or larger ventilation openings covered with wire mesh are permitted.

The container shall be large enough to permit the animal to stand in a natural upright position, turn around and lie down. Containers shall be nose and paw-proof, i.e. ventilation apertures shall be of such size that it is impossible for the animal to protrude its nose or paws outside the container.

△ If the weight of the container plus animal exceeds 60 kg (132 lb), forklift spacers must be provided and metal bracing added to the frame of the container.

Note: For hyaena, wolves and wild dogs, the container must be totally lined with sheet iron or other hard metal sheeting with through ventilation openings.

Warning: Plastic containers shall not be used.

For palletised shipments, cages should be made of welded wire mesh.

Food and water container must be provided.

2. PREPARATIONS BEFORE DISPATCH
(see Chapter 1, 1.1 and Chapter 3)
No special requirements.

3. FEEDING AND WATERING GUIDE
(for emergency use only)
Animals should not require additional feeding or watering during 24 hours following the time of dispatch.
If feeding is required due to an unforeseen delay, canned dog or cat food should be provided but care must be taken not to overfeed.

4. GENERAL CARE AND LOADING
(see Chapter 3)
Animals in quarantine shall be segregated from those which are not.
Hand-reared young may be loaded in the same container as long as they are used to cohabiting.

△ EXAMPLE:

Fig. 1 From IATA Live Animals Regulations, 1992

adequate ventilation openings on three sides of the container with the majority of the openings being provided on the upper part of the sides. Spacer bars must be fitted on both sides to facilitate the flow of air around the con-

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tainer and to prevent the ventilation openings from being blocked by other cargo. When animals are carried in pathogen-free containers or containers with filter units, special measures must be taken to ensure that the required rate of ventilation is maintained.

Shipping animals in aircraft lower deck compartments is a common practice. It requires an efficient handling process and management to secure animal safety and comfort. Research studies confirm that leakage of air through the door seal of a cargo compartment generates air movement inside the compartment. Such airflow varies from a fair to a significant degree while the aircraft is on the ground, prior to takeoff, during climbing, cruising, and descending, and after landing. The continuous air movement provides ventilation and reduces the concentration of carbon dioxide around the container and removes a portion of the heat and moisture generated by the animal. Since the combined effects of temperature and humidity on the animal vary from species to species, animal shippers must inform the carrier if a specific temperature range is required. The temperature range should be specified on the veterinary certificate. The carrier will inform the flight crew and field agents to ensure that the requirement is met.

Overcrowding is a potential cause of transport-related injury and mortality. This problem can be minimized by ensuring a minimum space for each animal or perching space for each bird inside a container or compartment of a container. The LAB has been working closely with CITES, USFWS, and the EC to define the most suitable stocking densities for species commonly transported by air. The LAB will consider the same principle for determining the maximum number of animals to be transported in a single, multiple, or compartmentalized container.

An argument was raised recently concerning whether or not large wild cats should be transported in narrow crates that do not allow the animal to turn around. The primary objec-

tive of using a narrow crate is to prevent the animal from rubbing itself against the sides of the container. However, some animal shippers believe that such measures cannot stop performance animals from flipping over in narrow crates thus damaging their skin. The LAB has resolved this dilemma by recommending to the shippers that if a veterinary certificate states that the large cat is suitable to be transported in a container which permits the animal to turn around, that container may be accepted for shipment.

Passengers planning to travel with their pets in the aircraft cabin should note a new airline rule. Aimed at preventing pet owners from squeezing their large pets into an under-seat container, the new IATA standard requires that the under-seat container plus the animal not exceed 9 pounds (4 kg). Large pets must be transported in the cargo compartment and must be packaged in accordance with the IATA regulations.

Proper labeling of shipping crates will benefit the animals, particularly exotic species. Today, the definition of labeling refers to marking the name of the shipper's and consignee's contacts both on the live animal label and on the container. Any special feeding or watering instructions must be attached to the container. Such details will be extremely useful to airline personnel should an emergency arise.

Many countries have specific rules on feeding and watering animals. IATA standards specify that food and water troughs must be either fixed inside the container or attached to it with a means of access provided. Because air carriers are not animal experts, animal shippers must provide feeding and watering instructions to the carrier at the time of acceptance. Although some animals may not require feeding and/or watering during transit, their containers should be equipped with food and water troughs to allow replenishment in case of undue delays.

Most animals require bedding and absorbent materials in their containers for safety and health reasons. While the IATA regulations

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provide very clear instructions on such requirements, some animal shippers have argued that certain species could eat the bedding and the bedding and the absorbent materials might create a messy environment for the animal. Because such requirements also concern health regulations of certain countries (e.g., restrictions on importation of straw), the LAB will further investigate the argument before making a final determination.

These are some of the important transport conditions contributing to the safe and humane transport of live animals. The IATA Live Animals Board constantly reviews these transport conditions and updates the IATA Live Animals Regulations. Those concerned with animal welfare should make use of this effective vehicle to voice their opinions and recommendations.

For further information, please contact Joseph Chan, IATA, Manager, Special Cargoes, IATA Building, 2000 Peel Street, Montreal, Quebec, Canada, H3A 2R4. Tel: (514) 985-6361 or fax: (514) 844-7711.

To subscribe to the IATA Live Animals Regulations, please contact the Publications Assistant, IATA Building, 2000 Peel Street, Montreal, Quebec, Canada, H3A 2R4. Tel: (514) 844-6311 or fax: (514) 844-3788. ■

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them. Detailed recommendations for various species can be found in Fowler (10) and in the IATA Live Animals Regulations (4).

Most animals are shipped in individual containers. But because of the extremely social nature of primates, shipping two compatible juveniles together, a mother-infant pair, a family group, or a mated pair in one container is acceptable, and may even be advisable. Other social animals, like some rodents and hoofstock, are also often shipped in compatible pairs and

groups. However, great care should always be exercised in deciding to place more than one animal in a transport enclosure. Stress may cause even normally docile and compatible animals to become aggressive. During panic, smaller animals are easily crushed or trampled. Shipping unweaned infants or females in late pregnancy should be avoided. Females in estrus must never be in the same enclosure as males. For marine mammals or primates, socially dependent animals must have visual and olfactory contact with each other. Conversely, visual or olfactory contact with enemy species or aggressive conspecifics should be prevented. In many instances, it is appropriate for a knowledgeable attendant to accompany the animals. For marine mammals (except polar bears, on short journeys), this is a requirement.

Transporting specific-pathogen-free (SPF) animals to laboratories involves using containers with special SPF filters, which can also have the effect of retaining heat within the container. Small animals, such as rodents, generate great body heat, and when they're in SPF containers, it's especially important to expose them only to temperatures within the acceptable range (10, 14).

Post-arrival arrangements are also important. After arrival at the final destination, precautions should continue. Animals are vulnerable to certain infectious diseases in the first 1-2 weeks after transport due to the adverse effects of stress on the immune system (10, 11, 12). Studies have shown that laboratory rodents lose body weight during transport, largely due to dehydration. It may take several weeks for apparently normal rodents to regain their body weight and recover their physiologic equilibrium (6, 13). Thus, it is best to wait until this recovery period has passed and the new arrivals have stabilized before beginning any potentially stressful activity (5, 6, 13).

Regulatory Requirements and the Inspection Process

The USDA requirements for transport of laboratory and exhibit animals are published in *Title 9, Code of Federal Regulations, Chapter 1,*

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Subchapter A - Animal Welfare. They address requirements for:

- consignment procedures;
- transport enclosure suitability;
- animal grouping;
- labeling and document attachment;
- vehicle design and suitability;
- feeding and watering before and during transport;
- observation and care in transit;
- temperature control and shelter in transit and at terminals; and
- careful handling and positioning of containers.

These standards are quite similar but there are some differences that relate to the uniqueness of each animal species. The standards are less explicit for exotic or wild animals (other than primates and marine mammals) because the range of species is so wide that it would be impractical to detail all their minimum needs. Thus, within these general standards, shippers must use their knowledge of the characteristics of each species and of the particular animals being shipped to decide what type of crate would work best, whether animals should be crated singly or in pairs, and so on.

For transport of 6 hours or more, guinea pigs, hamsters, and rabbits must have access to food and water, and it is the shipper's responsibility to provide an adequate supply. Pieces of fresh potatoes or other fruits and vegetables can satisfy the requirement for both food and water. Marine mammals must be offered food after 36 hours of transport. For dogs, cats, primates, and wild animals, food and water instructions for a 24-hour period must be attached to the primary transport enclosure.

Food and water requirements for wild animals vary. Shippers should consult a veterinarian experienced with those species for advice.

Sometimes laboratories need animals that have specific diseases or have already been surgically manipulated. For communicable conditions, an exception to health certificate requirements must be obtained from the APHIS Administrator. With other conditions, special medications or care (e.g., more frequent watering) may be necessary. For dogs, cats, and primates, instructions for any medication or special care must be attached to the primary enclosure.

USDA standards generally require that all animals in transport have at least enough space to stand, sit, lie down, turn normally, and make all normal postural adjustments. Limited exceptions are made for large primates, some marine mammals, and some exotic animals in instances where such freedom of movement would be dangerous to the animals or handlers. For example, a panicky antelope may repeatedly charge crate walls and injure itself, if given enough room.

When visiting a research laboratory, zoo, or intermediate handler's facility, the USDA inspector will look at transport enclosures and trucks (even if empty),

loading docks and equipment, records of past shipments (such as health certificates and air waybills) and may ask about acclimatization, restraint, and crating and uncrating procedures. He or she may also check medical and feeding records for animals being proposed for shipment. For animals that have recently arrived at the facility, feeding and medical records may again be examined to see how the animals are acclimating and whether there were any injuries or illness related to transport.



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Some international shipments are also regulated under the AWA. Carriers who accept animals in the United States for flights within the United States or to other nations must be registered. If a shipment originates anywhere in the United States, all regulations and standards apply until the shipment leaves the country. Although AWA regulations and standards do not apply to animal cargo originating outside the United States, as soon as the animals officially enter this country, they become regulated and are inspected. "Official entry" occurs when the shipment reaches the final destination of the International Air Waybill and clears United States Customs.

At the airport, rail station, or ocean port, the inspector examines:

- age and apparent health of animals;
- health certificates for dogs, cats, and primates;
- time of tender;
- suitability of primary transport enclosures with respect to strength, safety, escape-proofing, emergency access, leak-proofing, cleanliness, space, amount and distribution of ventilation opening, labeling, and document attachment;
- compatibility of animals shipped together;
- adequate feeding and watering instructions, and whether they are being followed by the transporter;
- whether the shipper provided an adequate supply of food and water;
- provisions for adequate shelter and temperature control in holding, transfer, and terminal facilities and in the conveyance;
- positioning of containers in the conveyance; and
- whether there has been frequent observation of the animals and a prompt response to any indications of distress.

Circuses are a special case. They travel during most of the year and transport, by truck or rail, occurs weekly. For efficiency, these conveyances often double as housing facilities while the circus is stationary at a given loca-

tion. In such cases, both housing and transport regulations must be met.

USDA inspectors may ask circus personnel for a demonstration of loading and unloading techniques to make sure that equipment and trained handlers are available to execute this safely. They may also ask how waste is disposed of, how food is provided during the trip, and how temperature control is maintained in transit. Cages, if used, may be built-in compartments. Sometimes they are portable and are fastened into place with bungee cords, straps, or other devices. Because of training and constant exposure to transport and new locations, circus animals are usually well adapted to the stresses of transport. Loading and unloading becomes an uneventful routine and many circus animals have become skilled "passengers," knowing how and when to shift their weight and how to keep themselves comfortable. For example, while most circus elephants are chained inside trucks during the ride, it's not always necessary for some animals. Nonetheless, the same principle that makes it wise for people to wear a seatbelt in automobiles also applies to animals. Too much space between the body and a trailer wall increases the force of impact during sudden stops and turns.

In constructing a travel trailer for animals, one should pay close attention to ventilation and temperature requirements. Ventilation needs can be met through use of windows, but the amount of airflow will then also be affected by the movement of the vehicle. Questions to ask include:

- Will airflow still be sufficient when the trailer is stuck in traffic during the heat of the day?
- Will drafts be too strong when traveling through frigid territory at night?
- How easily can windows be opened and shut?

Equipping animal compartments with vents connected to fans, air-conditioning, or heat is more versatile and enables good control of temperature and ventilation under nearly all conditions. Such vents should be constructed and protected to resist damage by animals.

Animal Transport cont'd from p.8

Electrical outlets, cords, and rotary blades must be out of reach of curious animals.

Laboratory and zoo animals are valuable. Most laboratory animals have been specifically bred for research, and zoo and circus animals are often threatened or endangered in their native habitats. Many of these animals would be expensive or difficult to replace. Making every effort to transport them according to the required standards is ultimately in everyone's best interest.

References

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Legislation cont'd from p.1

tuna of the eastern tropical Pacific Ocean has resulted in the deaths of million of dolphins. It is the policy of the United States to eliminate marine mammal mortality resulting from the intentional encirclement of dolphins and other marine mammals in tuna purse seine fisheries by securing multilateral agreements. A global moratorium of at least 5 years' duration will prohibit the use of purse seine nets. An international research program will be established to develop methods of fishing for large yellow fin tuna without setting nets on dolphins or other marine mammals. Related bill S.2995

- **S. 3159 To amend the Endangered Species Act of 1973 to reauthorize such act and to provide a means whereby endangered species and threatened species may be preserved and the habitat needs of the endangered and threatened species may be balanced and harmonized with the needs of man, and for other purposes.**

Introduced August 10, 1992, by Steve Symms (R-ID) and referred to the Committee on Environment and Public Works. This act may be cited as the "Progressive Endangered Species Act of 1992." Congress finds that various species of fish, wildlife, and plants in the United States have been rendered extinct by natural processes and as an unin-

tended consequence of public and private actions. Other species of fish, wildlife, and plants have been so depleted in numbers that they are in danger of extinction. Policies for cooperation with States, agencies, and international organizations are outlined. In addition, enforcement of the Marine Mammal Protection Act of 1972, cost analysis, incentives for conservation, the development of a Biodiversity Foundation, and authorization of appropriations are covered.

- **S. 3189 To implement the Protocol on Environmental Protection to the Antarctic Treaty, and for other purposes.**

Introduced August 12, 1992, by J. Robert Kerry (D-NE) and referred to the Committee on Foreign Relations. This act may be cited as the "Antarctic Environmental Protection Protocol Act of 1992." Congress finds that the Environmental Protection Protocol serves important U.S. environmental and resource management interests, while at the same time preserving the freedom of scientific investigation in Antarctica. It is unlawful for any person to conduct open burning, bring a dog into Antarctica, use leaded fuel, or discharge untreated sewage into the water or on ice shelves. It is also unlawful, except when authorized by permit, for individuals to take a native mammal or bird, a protected

species, or to introduce into Antarctica an animal or plant not indigenous to Antarctica.

- **H.R. 5569 A bill to require the President to impose economic sanctions against countries that engage in commercial whaling.**

Introduced July 8, 1992, by Peter DeFazio (D-OR) and referred to the House Committee on Foreign Affairs. Referred to the Subcommittee on Fisheries and Wildlife and Conservation and the Environment and the Subcommittee on Trade on July 15, 1992. This act may be cited as the "International Whaling Moratorium Enforcement Act of 1992." A ban will be placed on the importation of fish and fish products from countries that have not ceased whaling operations which diminish conservation efforts under the International Convention for the Regulation of Whaling.

- **H.R. 5682 A bill to provide more effective protection for marine mammals.**

Introduced July 23, 1992, by Michael Bilirakis (R-FL) and referred jointly to the House Committee on Agriculture and the House Committee on Merchant Marine and Fisheries. Referred to the Subcommittee on Fisheries and Wildlife Conservation and the Environment. This act may be

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Announcements...

● NEW PUBLICATION

The Care and Use of Amphibians, Reptiles and Fish in Research

Edited by
Dorcas O. Schaeffer, DVM, MS
Kevin M. Kleinow, DVM, PhD
Lee Krulisch

The Scientists Center for Animal Welfare has published the proceedings of a conference held in New Orleans on "The Care and Use of Amphibians, Reptiles and Fish in Research."

The materials presented at this conference, by both the conference speakers and the participants, is invaluable information for the care and treatment of these particular species, including fish raised in aquaculture.

Some topics included in this publication are:

- Discussion of regulations and guidelines by the National Institutes of Health, the American Society of Ichthyologists and Herpetologists, and the Canadian Council on Animal Care.

- Amphibians (the housing, handling and nutrition of salamanders and frogs, medicine and diseases, anesthesia, analgesia and euthanasia of amphibians, field and special research use);

- Reptiles (the housing, handling and nutrition of crocodilians, snakes, lizards, and turtles, special housing techniques for arboreal species, medicine and diseases, anesthesia, analgesia and euthanasia, pain and stress assessment, and field research);

- Fish Aquaculture (stress management, disease prevention, handling and euthanasia);

- Research (housing and handling, nutrition, procedures, stress assessment, anesthesia, analgesia and euthanasia, and field and special research use).

For more information, contact the SCAW office, 4805 St. Elmo Avenue, Bethesda, MD 20814, telephone (301)654-6390 or fax (301)654-6390.

● SCIENTISTS CENTER FOR ANIMAL WELFARE (SCAW) SPONSORS SYMPOSIUM AT ANNUAL AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE MEETING

"RESPONSIBILITIES OF INSTITUTIONS TOWARD ANIMALS IN RESEARCH"

February 12, 1993 - 8:30 - 11:30 a.m.
Boston, Massachusetts

A symposium—"Responsibilities of Institutions Toward Animals in Research"—will address issues about the use of animals in research that concern biomedical research institutions. The Animal Welfare Act and USDA regulations for laboratory animals have increased the legal and ethical responsibilities of many research institutions. Presentations will include the role of the USDA to enforce standards, Public Health Service guidelines, and self-regulation of animal care by professionals. Other topics will include the role and ethical responsibilities of the Institutional Animal Care and Use Committees (IACUC) and the ethics involved in performing its function as an oversight body. The importance of institutional support of the IACUC will also be explored. To round out the presentation of these issues, the public's view of the responsibilities of research institutions for animals at their facilities will be addressed. Question-and-answer periods will allow attendees to exchange information and to address questions to the symposium faculty.

Researchers, animal caretakers, regulatory personnel, members of Animal Care and Use Committees, administrators, and others interested in these issues are encouraged to attend. For more information, contact the SCAW office at (301)654-6390.

● PROCEEDINGS SOON TO BE PUBLISHED

Refinement and Reduction in Animal Testing

Edited by
Carolyn Harvey Lingeman, Steven M. Niemi, and
John E. Willson

The Scientists Center for Animal Welfare (SCAW) will publish the proceedings of the conference "Refinement and Reduction in Animal Testing" in the early spring of 1993. The 2-day conference was held in Philadelphia, Pennsylvania on September 17-18, 1992. The purpose of this conference was to review advances in refinement and reduction of animal use in the testing of medical, industrial, and consumer products. Opportunities and limitations for further refinement and reduction were discussed with respect to both human and animal welfare. The volume will contain chapters on the following five sessions:

- Animal Models and Efficacy Testing
- ADME/Pharmacokinetics
- Husbandry
- Toxicology
- Acute and General Toxicology

The volume will be co-edited by Carolyn Harvey Lingeman, MD, Contributing Editor for the *SCAW Newsletter*; Steven M. Niemi, DVM, President, TSI Mason Laboratories; and John E. Willson, DVM, Corporate Director, Animal Care and Use, Johnson and Johnson. The expected publication date is early spring 1993, and

the price will be \$45. For more information, call the SCAW office at (301)654-6390.

● NIH SPONSORED WORKSHOP

On June 17-18, 1993, NIH will be conducting a workshop at the University of Oklahoma in Oklahoma City. The workshop is entitled "Controversial Issues Affecting Animal Use: Challenges for Today's IACUC's." To register, and for more information, contact Marilyn Perry, Assistant to the Director for Compliance, Biomedical Sciences Building, Room 203, University of Oklahoma Health Sciences Center, Oklahoma City, OK 73190, telephone (405)271-5185 or fax (405)271-3032.

● ENVIRONMENTAL ENRICHMENT CONFERENCE

The First Conference on Environmental Enrichment will be held on July 16-20, 1993, at the Metro Washington Park Zoo, 40001 SW Canyon Road, Portland, OR, 97221. This has been organized by Drs. David Sheperdson and Jill Mellen. This will be the first ever conference specifically focused on the subject of environmental enrichment for zoo and aquarium animals. Topics such as husbandry, research, exhibit design and construction, psychological well-being, conservation, visitor education, and putting environmental enrichment into practice will be covered. Two days of formal sessions with posters will be followed by 2 days of workshops organized along taxonomic lines. The \$200 registration fee includes sessions/workshops, ice breaker, a salmon barbecue, box lunches, and a copy of conference proceedings. Housing will be at a reasonable cost and available at Portland State University and Nendel's Hotel. Contact Jill Mellen at (503)220-2446 or (503)226-1561 if you are interested in attending.

● CALL FOR PAPERS

The Canadian Association for Laboratory Animal Science (CALAS/ACTAL) Convention 1993 in Montreal, Quebec, "The Laboratory Animal Environment: Redefining Their Needs," is calling for papers. The deadline for presentation of an abstract is March 31, 1993.

Please indicate if you wish your abstract to be considered for:

- Scientific Session
- Poster Session
- Convertis Poster Session
- Texlad Speakers Award
- Lab Products Award
- Les Reid Memorial Award

(Completed papers must be submitted by May 1, 1993, in order to be considered for awards.)

For more information, please contact Dr. Gilles Lusier, MRC CALAS/ACTAL, B.P./Box 1288, Place du Parc, Montreal, Quebec, Canada H2W 2R3.

● CALL FOR PAPERS

"Humane Innovations and Alternatives," a refereed annual in its seventh volume, seeks manuscripts from 1 to 10 pages that offer clear, practical applications to alleviate suffering or enrich the lives of animals. Articles by veterinarians, scientists, animal care workers, and ALL those involved with animals and their humane treatment are welcome.

Articles have included such areas as reducing numbers of animals used for research, replacement of animals, refinement of experimental procedures, euthanasia, analgesic use, species-specific needs, humane training, psychological well-being, effective humane education, and stress reduction. Technical research articles as well as informal essays are accepted. Telephone Amy Richardson or Dr. Manny Bernstein (Dr. Bernstein if you get answering machine) at (518)891-4140 or send manuscript to Humane Innovations and Alternatives, Dr. Manny Bernstein, Editor, 45 Glenwood Road, Saranac Lake, NY 12983.

● VOLUME SIX OF "HUMANE INNOVATIONS AND ALTERNATIVES" IS NOW AVAILABLE

"Humane Innovations and Alternatives" is a refereed annual that select articles on the basis of their being immediately useful in helping to alleviate suffering and/or enrich the lives of animals.

Volume six, 1992, includes a conversation between Linda Tellington-Jones, Bonnie Prudden, and Michael Fox about bodywork with animals; humane training techniques for cats, dogs, and llamas; alleviating pain in a variety of species; primate enrichment; bioenergetic veterinary medicine; humane and effective beaver control; wildlife in one's own backyard; the ethical pet store; educational innovations, and more.

For more information, contact Psychologists for the Ethical Treatment of Animals (PsyETA), Box 1297, Washington Grove, MD 20880 or telephone (301)963-4751. Manuscript submissions can be sent to Dr. Manny Bernstein, Editor, 45 Glenwood Road, Saranac Lake, NY 12983.

● WORKSHOP

The Canadian Council on Animal Care is conducting a workshop "Approaches to Design and Development of Cost Effective Laboratory Animal Facilities," on June 9-11, 1993, at the Citadel Hotel (formerly Skyline) in Ottawa, Ontario, Canada.

This symposium, the first in a series planned on animal facility design that will meet the humane and scientific imperatives of the 21st century, will be valuable

to those who are or may be involved in the planning, design, construction, and/or renovation of laboratory animal facilities.

A preliminary program and registration information will be available in January 1993. If you would like further information, contact the Canadian Council on Animal Care at (613)238-4031.

AVIAN CONFERENCE

The Association of Avian Veterinarians (AAV) announced its Call for Papers for the 14th AAV Annual Conference to be held in Nashville, Tennessee, on August 31 - September 4, 1993. Proposals will be accepted for clinically oriented case reports, research projects, conservation programs, and comprehensive reviews. Material must be original and previously unpublished.

Veterinarians and veterinary technicians are also invited to submit papers for the Technicians' Program held concurrently with the annual conference.

Non-members may request a Call for Papers "Proposal Application" and general information from the AAV Conference Office. Deadline for Paper applications is February 1, 1993. The papers will be reviewed and selected by the Conference Committee in February.

AAV will offer two regional conferences in 1993, with concurrent programs for veterinarians and technicians — a Basic Avian Medicine Symposium, and a Technicians' Program — on February 21 in Dallas, Texas, and on May 23 in Baltimore, Maryland. To be placed on the mailing list, non-members are invited to send their name and address to the AAV Conference Office by mail or FAX.

For further information, contact the AAV Conference Office, 1625 So. Birch St., Ste. 106, Denver, CO 80222, telephone (303)756-8380 or fax (303)759-8861. ■

Legislation cont'd from p.9

cited as the "Marine Mammal Capture, Export, and Public Display Protection Act of 1992." Amends the Animal Welfare Act with regard to penalties for violations involving marine mammals. Amends the Marine Mammal Protection Act to establish a tracking system for marine mammals taken in U.S. waters or imported to the United States. Also provides for marine mammal export permits and regulates marine mammal scientific research. ■

Cynthia Smith, Info. Specialist.

CALL FOR RESEARCH PROPOSALS

The Johns Hopkins Center for Alternatives to Animal Testing (CAAT) is soliciting proposals for the 1994-95 grant period. These research proposals should provide fundamental knowledge needed to develop alternative methods to using whole animals for the safety evaluation of commercial products.

CAAT is soliciting projects focused on investigating the fundamental knowledge needed to develop alternative methods to using whole animals for safety/hazard evaluation, risk assessment and efficacy. CAAT also encourages the investigation of in vitro approaches to evaluating cellular and target organ toxicity. Some examples are: developing new cell culture systems; applying current testing methodology to human cells/cell lines; and designing new, mechanistic, state-of-the-art methods that may utilize cultured cells, computer technology (e.g., structure-activity relationships), or any other system applicable to toxicity/efficacy evaluation. At the present time, CAAT does not fund projects relating to carcinogenicity or mutagenicity.

To apply, submit a one-page preproposal abstract using the CAAT Preproposal Abstract Form (94-95) to Mrs. Joan Poling, CAAT, 615 N. Wolfe Street, Baltimore, MD 21205, Tel. (301)955-3343, Fax (301)955-0258. You will be notified of acceptance and sent guidelines for preparation of proposals. **DEADLINE FOR SUBMISSION OF PREPROPOSAL ABSTRACTS IS MARCH 1, 1993.**

Upcoming Meetings...

Association of Avian Veterinarians, February 21, 1993. Dallas, TX. Contact: (303)756-8380.

Society of Toxicology, 1993 Annual Meeting, March 15-17, 1993. New Orleans, LA. Contact: (202)371-1393 - Mary Guthrie.

The AAZPA Conservation Academy, March 16-20, 1993. Classes on Studbook I and SSP Coordinator Training. St. Louis, MO. Contact: (314)781-0900, Ext. 297.

ARENA, Annual Animal Issues Conference, March 17, 1993. Boston, MA. Contact: (617) 423-4112.

PRIM & R, Animal Research Committees: Ethics, Education, and Economics, March 18-19, 1993. Boston, MA. Contact: (617)423-4112.

PRIM & R, Teaching Ethics in the Hospital, Medical School and Research Lab, March 18-19, 1993. Boston, MA. Contact: (617)423-4112.

Animal Transportation Association, 19th International Conference on "Responding to the Demands of Global Change," March 28-31, 1993. New Orleans, LA. Contact: (813)879-3210 - Millie Woolf or (903)725-6553 - Cherie Derounin.

Federation of American Societies for Experimental Biology, Annual Meeting, March 28-April 1, 1993. New Orleans, LA. Contact: (301)530-7000.

PRIM & R, Teaching Ethics in the Hospital, Medical School and Research Lab, April 1-2, 1993. Boston, MA. Contact: (617)423-4112.

National Science Teachers Association, NSTA National Convention, April 1-4, 1993. Kansas City, MO. Contact: (202)328-0974.

Joseph F. Morgan Research Foundation, Current Trends: In Vitro Skin Toxicology and Eye Irritancy Testing, April 21-23, 1993,

Ottawa, Ontario, Canada. Contact: (613)594-8226.

Medical Library Association, May 15-19, 1993. Chicago, IL. Contact: (312)419-9094.

Conjoint Annual Meetings of the American Association of Immunologists and the Clinical Immunology Society, May 21-25, 1993. Denver, CO. Contact: (301)530-7010.

Association of Avian Veterinarians, May 23, 1993. Baltimore, MD. Contact: (303)756-8380.

Congress on Cell and Tissue Culture, June 5-9, 1993. San Diego, CA. Contact: (410)992-0946.

Approaches to Design and Development of Cost Effective Laboratory Animal Facilities, Canadian Council on Animal Care, June 9-11, 1993. Ottawa, Ontario, Canada. Contact: (613)238-4031.

Creatures of the Dark: The Nocturnal Prosimians, June 9-12, 1993. Duke University Primate Center, Durham, NC. Contact: (919)684-2535 - Kitty Cornett.

NIH sponsored workshop entitled "Controversial Issues Affecting Animal Use: Challenges for Today's IACUC's", June 17-18, 1993. Oklahoma City, OK. Contact: (405)271-5185 - Marilyn Perry.

American Society of Animal Science Annual Meeting, July 6-9, 1993, Spokane, WA. Contact: (217)356-3182 - Molly Kelley.

International Conference on Tortoise & Turtle Conservation, July 11-17, 1993. New York, NY. Contact: (212)459-4803.

American Veterinary Medical Association, Annual Meeting, July 17-21, 1993. Minneapolis, MN. Contact: (708)925-8070.

Science Innovation '93, The Conference on New Research Techniques, August 6-10, 1993. Boston, MA. Contact: (202)326-6462.

13th International World Congress of EEG and Clinical Neurophysiology, August 29-September 4, 1993. Vancouver, BC, Canada. Contact: (604)681-5226 - Donald W. Paty, MD.

Association of Avian Veterinarians, 14 AV Annual Conference, August 31-September 4, 1993. Nashville, TN. Contact: (303)756-8380.

15th World Congress on Neurology (WCN 93), September 4-10, 1993, Vancouver, BC, Canada. Contact: (604)681-5226 - Donald W. Paty, MD.

Second International Congress on Peer Review in Biomedical Publication, September 9-11, 1993, Chicago, IL. Contact: (312)464-2432 - Annette Flanagan.

American Association of Zoological Parks and Aquariums, Annual Conference, September 12-16, 1993. Omaha, NE. Contact: (402)733-8401.

American Association of Zookeepers, October 10-15, 1993. Atlanta, GA. Contact: (913) 272-5821.

4th International Lion-tailed Macaque Symposium, October 11-15, 1993. Madras, India. Contact: Registrar, CBSG-India, Box 1683, Peelamedu, Coimbatore, Tamil Nadu, India. Fax: 91-422-572-123.

World Congress on Alternatives and Animal Use in the Life Sciences, November 14-19, 1993, Baltimore, MD. Contact: (410)955-3343 - Dr. Alan Goldberg, Baltimore, MD, or 30-532-033 - Prof. Bert van Zutphen, Utrecht, The Netherlands.

Congress of the International Primatological Society, July 19-24, 1994. Bali, Indonesia. Contact: (202)223-6971 - Dr. Soegardjito. ■

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NEW PUBLICATIONS AVAILABLE FROM AWIC...

- Information Resources for Reptiles, Amphibians, Fish, and Cephalopods Used In Biomedical Research
- Housing, Husbandry, and Welfare of Beef Cattle QB 93-07
- Audio-Visuals Relating to Animal Care, Use and Welfare

ANIMAL WELFARE INFORMATION CENTER IMPLEMENTS USER FEE POLICY

Due to continuing budget constraints, on October 30, 1992, the Animal Welfare Information Center (AWIC) instituted a policy of charging for extended information and research services.

In accordance with the National Agricultural Library's user fee policy, users — with the exception of USDA personnel — will be billed for information support services in excess of 1 hour of staff time or \$25 in on-line costs.

This policy allows AWIC staff to once again perform comprehensive on-line literature searches for those individuals and organizations regulated by the Animal Welfare Act.

For further information, contact: AWIC, NAL, Room 205, 10301 Baltimore Blvd., Beltsville, MD 20705-2351 or call (301) 504-6212.

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